

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/113631 A1

(51) International Patent Classification⁷: **E03D 9/03**

(21) International Application Number:
PCT/GB2004/002563

(22) International Filing Date: 16 June 2004 (16.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0313930.0 16 June 2003 (16.06.2003) GB

(71) Applicant (for all designated States except US): **JEYES GROUP LIMITED** [GB/GB]; Brunel Way, Thetford, Norfolk IP24 1HF (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WILSON, Brian** [GB/GB]; Torridon, 52 Common Road, Bressingham,

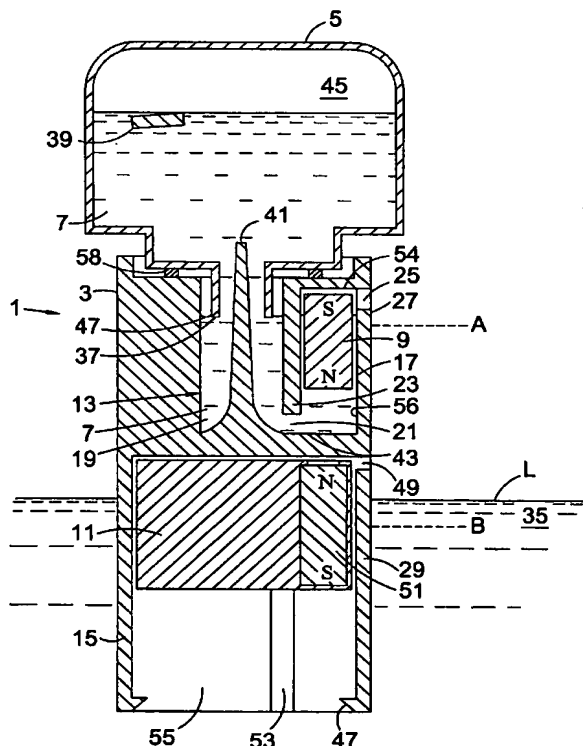
Diss, Norfolk IP22 2BB (GB). **BALLS, Steve, Nicol** [GB/GB]; 42 Thistle Close, Thetford, Norfolk IP24 2YB (GB). **SMITH, Darren** [GB/GB]; 60 Magdalen Street, Thetford IP24 2BN (GB). **VIRICA, Peter** [GB/GB]; 117 Dinsdale Road, Newcastle-upon-Tyne NE2 1DP (GB).

(74) Agent: **LUCKHURST, Anthony, Henry, William;** Marks & Clerk, 57-60 Lincoln's Inn Fields, London WC2A 3LS (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: A LIQUID DISPENSING DEVICE



(57) Abstract: A liquid dispensing device for use in the flush cistern of a water closet comprises a reservoir (13) for the liquid formulation which is fed from an inverted container (5) maintaining a constant liquid level (47) in the reservoir (13) at the mouth (37) of the container. A displacement body in the form of a piston (9), which may be magnetic, moves in a bore (56) to dispense liquid through opening (25). The piston (9) is moved by a float (11) which moves up and down as the level of water L in the cistern rises and falls on flushing. The float is coupled to the piston (9) magnetically. In another embodiment a direct mechanical coupling is used. Liquid seeps past piston (9) when in the lowered position, and is raised to overflow outlet (25) when the cistern fills. In another embodiment, liquid is dispensed on a downward stroke of the piston. The fit of piston (9) in the bore allows liquid to seep slowly past the piston to replenish the bore.

WO 2004/113631 A1



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*